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10/577,927	05/01/2006	Joseph Taillet	290090US2PCT	6916
22850	7590	04/17/2009	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			CLARK, CHRISTOPHER JAY	
			ART UNIT	PAPER NUMBER
			2836	
			NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/577,927	Applicant(s) TAILLET, JOSEPH	
	Examiner CHRISTOPHER J. CLARK	Art Unit 2836	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-25, 31, 33-36 and 39-44 is/are rejected.
- 7) ☒ Claim(s) 26-30, 32, 37 and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/1/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in France on May 7, 2004. It is noted, however, that applicant has not filed a certified copy of the 0404941 application as required by 35 U.S.C. 119(b).

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on May 1, 2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

3. The disclosure is objected to because of the following informalities: Proper headings are required.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. Claim 39 recites the limitation "the revolving part" in Line 1. There is insufficient antecedent basis for this limitation in the claim. To expedite examination, the examiner will address the limitations as best as possible.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 23, 24, 31, 33-36, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larigaldie (4,417,293) in view of Whitby (3,317,790).

7. In re Claim 23, Larigaldie teaches a static electricity eliminator as seen in Figure 1 comprising:

- at least one injector having a body (10) that defines a supersonic nozzle (18) for holding a compressed gas (Column 5 Lines 32-26)
- a corona point (49) located close to a throat of the nozzle (as seen in Figure 1)
- an electric supply circuit (64) connected to the corona point, wherein the corona point is formed by a surgical needle (Column 5 Line 15)

8. Larigaldie does not teach that the needle is specifically chromium steel (a.k.a. stainless steel) or that it has a point with a diameter of less than 30 micrometers.

9. Whitby teaches that when similarly generating charges with a needle, it is best for the needle point to be less than 0.001 inch, which is equal to 25.4 micrometers.

10. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the diameter of the needle point of Larigaldie at a value less than 30 micrometers, since Whitby teaches that it is a desirable value for a needle point to successfully create charged particles.

11. It also would have been obvious to one having ordinary skill in the art at the time the invention was made to create the needle from stainless steel since it is a common and widely known conductive metal known for its resistance to corrosion and rusting.

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12. In re Claim 24, Larigaldie teaches that the nozzle is a hollow cylindrical part extending forward by a conical part ending with a flange oriented inwards as seen in Figure 1. Larigaldie further teaches that the nozzle as seen in Figure 1 may be formed of a metal insert (132) surrounded by an epoxy resin insulator in order to obtain the shape as seen in Figure 1 as discussed in Lines 40-47 of Column 7.

13. In re Claim 31, Larigaldie teaches a needle, but does not specifically teach that the needle comprises a recess formed at a rear end located opposite the point.

14. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form a conical recess at the end of the needle so that it may interact with a protrusion in the body of Larigaldie's device to keep it in place since it has been held that changing the shape of a prior art device requires only routine skill in the art. *In re Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), *cert. denied*, 469 U.S. 830, 225 USPQ 232 (1984).

15. In re Claim 35, Larigaldie teaches placing a low value capacitor (C130, Column 10 Lines 1-4) between the secondary coil and the needle as seen in Figure 3.

16. Larigaldie as modified by Whitby does not teach a resistor being connected in series.

17. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a resistor in series with the capacitor since it was known in the art that as a protective measure against overcurrent, especially in high voltage situations, it is desirable to include a series resistor to limit the current that flows.

18. Furthermore, Larigaldie as modified by Whitby does not teach the exact values for the capacitor and resistor as claimed. It would have been obvious to one having ordinary skill in the

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art at the time of the invention was made to make the capacitor of Larigaldie a value between 20pF and 200pF in order to provide a low capacitance value as taught by Larigaldie, and the resistor a value between 1 Mohm and 100 Mohm so that it can effectively limit current in such a high voltage application, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F. 2d 272, 205 USPQ 215 (CCPA 1980).

19. In re Claim 36, Larigaldie as modified by Whitby discloses the claimed invention except for the capacitor and resistor being located in the insulator (138) of Larigaldie. It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the capacitor and resistor in the insulator to protect them from any outside elements since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

20. In re Claim 33, Larigaldie teaches the injector receiving compressed air (Column 5 Lines 32-40). Larigaldie does not teach the tube containing a connection tube, a front tube, and a rear tube.

21. It would have been obvious to one having ordinary skill in the art at the time the invention was made to separate the tube of Larigaldie into three separate components in order to make it less expensive and simpler to replace damaged components since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. *Nerwin v. Erlicnrrnan*, 168 USPQ 177.

22. In re Claims 34 and 39, Larigaldie teaches a connection (52) for anchoring the high power supply cable as seen in Figure 1.

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23. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Larigaldie (4,417,293) in view of Whitby (3,317,790) as applied to Claim 24 above, and further in view of Hendricks (4,120,016).

24. In re Claim 25, the teaching of Larigaldie as modified by Whitby has been discussed above, but does not teach equipping the nozzle with female threading.

25. Hendricks teaches using threading to attach a nozzle (30) to the body of a device as seen in Figure 5.

26. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize threading as taught by Hendricks on the nozzle of Larigaldie as modified by Whitby in order to allow the nozzle to be easily removable to allow for simple replacement or modification of the nozzle in the event it experiences a fault.

27. The examiner would like to note that although the nozzle threading as taught by Hendricks is male threading, it would have been obvious to one having ordinary skill in the art at the time the invention that in such a threading connection, the male and female components can easily be exchanged to provide the same type of connection.

28. Claims 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larigaldie (4,417,293) in view of Whitby (3,317,790) as applied to Claim 23 above, and further in view of Nishhira et al (5,821,642).

29. In re Claim 40, Larigaldie teaches a relay (110) connected to the primary winding of the power supply as seen in Figure 1 (Column 10 Lines 56-65).

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30. Larigaldie does not teach that the relay is a synchronous relay.

31. Nishhira teaches that the benefit of implementing a synchronous relay is to minimize the amount of in-rush current available at the input and prevent damage to the relay (Column 3 Lines 45-55).

32. It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement the relay of Larigaldie as a synchronous relay as taught by Nishhira in order to limit in-rush current and prevent damage to the relay.

33. In re Claim 41, Larigaldie teaches that a pressure sensitive switch (112) provides a signal to the relay in order to indicate the presence of gas in the injector and minimize the chance of arcing (Column 10 Lines 55-65).

34. Larigaldie as modified by Whitby and Nishhira has been discussed, but does not disclose a time-delayed relay being supplied with a signal from the pressure sensitive relay.

35. It would have been obvious to one having ordinary skill in the art at the time the invention was made to implement any form of time delay, including a relay, between the pressure sensitive switch and the synchronous relay to additionally ensure that the gas pressure in the injector is at a safe level since it was known in the art that relays can act as time delay devices.

36. In re Claim 42, the injector has been addressed structurally thus far, and is therefore able to meet the intended use as discussed in the limitations.

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37. Claims 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larigaldie (4,417,293) in view of Whitby (3,317,790) as applied to Claim 23 above, and further in view of Pitel et al (6,259,591).

38. In re Claims 43 and 44, the teaching of Larigaldie as modified by Whitby has been discussed, but does not disclose two injectors being supplied with an opposite polarity of an alternating supply.

39. Pitel teaches utilizing two separate electrodes supplied with opposite polarities of an AC supply to generate ions as seen in Figure 2. The advantage of the supply circuit of Pitel is that it measures and monitors its ionizing efficiency without employing complex circuitry (Column2 Lines 36-39).

40. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize two injectors as taught by Larigaldie as modified by Whitby in order to implement the power supply structure as taught by Pitel, since Pitel teaches that such a power supply measures and monitors its ionizing efficiency without employing complex circuitry.

Allowable Subject Matter

41. Claims 26-30, 32, 37, and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

42. Claims 26-30 recite a static electricity eliminator that includes among other components a needle that is supported by an insulating mantle having a threaded front part configured to screw into the female thread of the rear end of the metal insert of the nozzle. The featured limitations

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discussed above in combination with the other limitations of the claims is not anticipated by the prior art of record, nor would it have been obvious to one having ordinary skill in the art to modify the prior art of record in order to make the aforementioned limitations unpatentable.

43. Claim 32 recites a static electricity eliminator that includes among other components a needle with a rear end that is engaged inside a recess in a form of a hollow cylinder formed at the front of a metal support in a shape of a cylinder, the recess having a diameter larger by several hundredths of a millimeter than that of the needle, and wherein the rear end of the needle is fixed in the cylindrical recess by widening walls of the conical recess of the needle following crushing of the walls between an inner wall of the support and a ball of a ball-point pen of appropriate diameter. The featured limitations discussed above in combination with the other limitations of the claims is not anticipated by the prior art of record, nor would it have been obvious to one having ordinary skill in the art to modify the prior art of record in order to make the aforementioned limitations unpatentable.

44. Claims 37 and 38 recite a static electricity eliminator that includes among other components a revolving metal part, which has a flat side located opposite the high-voltage device, with a milled recess configured to mount a toric joint about the central aperture, the revolving part having an outer diameter larger than that of the high-voltage plug, whereas the central aperture has a diameter smaller than that of the plug. The featured limitations discussed above in combination with the other limitations of the claims is not anticipated by the prior art of record, nor would it have been obvious to one having ordinary skill in the art to modify the prior art of record in order to make the aforementioned limitations unpatentable.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER J. CLARK whose telephone number is (571)270-1427. The examiner can normally be reached on M-F, 10:00-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on 571-727-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

4/13/2009

/Ronald W Leja/
Primary Examiner, Art Unit 2836

CJC

4/10/2009